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A WEEKLY EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(294) The Production of Immunity against, and the Cure of, Pneumonia.

IN 1890 was published the important discovery by Behring and Kitasato that blood serum taken from animals that had been rendered immune to tetanus and diphtheria was capable of curing other animals suffering from those diseases. Drs. G. and F. Klemperer (*Berliner klinische Wochenschrift*, August 24th and 31st, 1891) publish a research carried out in regard to pneumonia, with the object of discovering how immunity against the pneumococcus could be best produced, whether recovery from the disease rendered an animal immune, and whether it was possible to cure pneumonia by the blood serum of animals that had recovered from the disease. Their experiments, which were confined to rabbits, revealed that every nutrient medium in which the pneumococcus has been cultivated will, if inoculated, render an animal immune against pneumonic septicæmia, even after the cocci have been removed by filtration. The power of producing immunity is more speedily acquired, and is increased if the infected nutrient medium (before or after removal of the cocci) is exposed to a temperature of between 41° to 42° C. for two or three days, or of 60° for an hour or two. In every case, however, it was found necessary that some interval (varying from three to fourteen days) should elapse between the inoculation and the production of immunity. Hence it was too late to cure a diseased animal or even to prevent the onset of an attack if the injection was given simultaneously with the outbreak of the disease. On the other hand, serum taken from animals enjoying immunity was found able, especially when introduced directly into the circulation, to cure pneumonic septicæmia. The serum was injected twenty-four hours after infection, while the animals had a febrile temperature of between 105° and 106.5° F. Eight cubic centimetres were injected with the result that the temperature gradually sank during the next twenty-four hours. In twelve successive cases a successful result was obtained. This research therefore confirms, in regard to pneumonia in rabbits, what Behring and Kitasato did for tetanus and diphtheria. Drs. Klemperer next studied the question how the blood serum of an immune animal cures an attack of pneumonic septicæmia, and discovered that when the pneumococcus is introduced into the body of an animal it generates a poisonous substance which can be isolated, and to which the name of "pneumotoxin" has been given. This pneumotoxin sets up a febrile condition which lasts several days, after which another substance is found to have been produced called "antipneumotoxin," which is able to neutralise the pneumotoxin. The serum taken from an immune animal contains this antipneumotoxin, and it is by means of this substance that it cures an attack of pneumonic septicæmia in other animals. The relation of pneumonia as seen in rabbits with that met with in man was next investigated, and the conclusion arrived at that the disease in both cases is produced by the pneumococcus, but that the human body is much less susceptible to the latter than the rabbit is. Thus it was found that serum taken from pneumonic patients after the crisis could cure pneumonia in rabbits; moreover, pneumotoxin and antipneumotoxin were found to be present in human serum as in that taken from rabbits. The crisis of pneumonia, according to Drs. Klemperer, takes place as soon as antipneumotoxin is produced in sufficient quantity to neutralise the pneumotoxin. Why immunity against further attacks lasts so short a time in man is still uncertain, but possibly less antipneumotoxin is formed in man than in rabbits in proportion to the pneumotoxin. Some attempts have already been made to cure patients suffering from pneumonia with the help of antipneumotoxin, but further observations are necessary before results can be published.

(295) Annual Shedding of the Cuticle.

DRS. J. FRANK and W. C. SANFORD report (*Amer. Journ. Med. Sci.*, August, 1891) the case of a miner who, for thirty-three consecutive years, has completely shed his entire cuticle together with the nails of his hands and feet. The process takes place on the same day every year (July 24th), and within a few hours of the same time of the day (usually at 3 P.M., and never later than 9 P.M.) On July 23rd, 1890, the man was admitted to St. Elizabeth's Hospital, Chicago, for observation, being at the time in perfect health. The skin appears perfectly normal, and the patient has never suffered from any of the eruptive fevers, and has always been healthy. He was born in 1857, and on July 24th following his birth he was suddenly taken ill; he vomited, became hot and feverish, and in a few hours the entire surface of the body was scarlet red. Symptoms increased for three or four hours, when they gradually subsided, and the patient was supposed to have recovered, but on the fourth or fifth day following the attack the entire cuticle was cast off, and a few days later the nails of his hands and feet were also shed. The man first remembers the process taking place in 1865, when the

cuticle and nails were cast off while at play. The paroxysm begins abruptly with a feeling of lassitude and weakness which lasts from fifteen to twenty minutes; this is followed by muscular tremors, nausea, and vomiting, and rapid rise of temperature; the skin and mucous membrane of the tongue and mouth become red and inflamed. Perspiration does not come on after the paroxysm begins till the cuticle is cast off. The acute symptoms begin to subside in from three to four hours, and are entirely gone by the end of twelve hours, with the exception of the redness of the skin, which does not return to its normal colour for thirty-six hours or more. The patient has been delirious three times during these attacks, once for nine days. In his early life the cuticle began to be shed on the second or third day after the symptoms appeared, and the process was complete by the fifth day; but each succeeding year it takes a little longer, until now it is ten or twelve days before it is complete. The cuticle can be detached in large sheets, and he has always been able to remove it from the hands and feet in one piece in the form of gloves and moccasins. The nails are loosened and come off in about four weeks after the acute stage. On July 24th, while under observation in the hospital, these phenomena occurred exactly as described. Between 3 and 4 P.M. marked constitutional disturbance began, which subsided in some hours. The skin became red, the redness gradually subsiding during the two following days. On July 26th desquamation of the epithelium of the tongue and mouth took place. From July 30th to August 11th the cuticle peeled off from different parts of the body in large masses, coming off from hands like gloves and from the feet like moccasins. The latter were worn as slippers some days after being shed to protect the feet. The nails came off later. Drs. Frank and Sanford consider the case unique.

(296) Balantidium Coli.

K. ORTMANN (*Berliner klinische Wochenschrift*, August 17th, 1891) publishes a case of chronic catarrh of the great intestine, associated with the presence of the *balantidium coli*. The most prominent symptom was persistent diarrhœa, and Ortmann considers it highly probable that the infusorian parasite was the cause of that condition. At any rate the number of the parasites and the severity of the diarrhœa ran a *pari passu* course. Various experiments were made in order to discover what drugs would kill the balantidium outside the body, quinine being found one of the most efficacious. Applied in the form of clysters this drug appeared beneficial, although it was not until it was given *per os* as well as *per rectum* that the diarrhœa was wholly checked and that the patient's general condition improved. Three months after discharge the patient was in much better health, although some few parasites could still be discovered in the stools.

SURGERY.

(297) The Diagnosis of Tumours of the Bladder.

DR. GUIARD (*Arch. Gén. de Méd.*, September, 1891) says that in these cases it is not always possible to decide the question of surgical interference without having pursued as far as possible the clinical study. After a historical sketch, in which acknowledgments are made chiefly to M. Guyon for contributions to this clinical diagnosis, the author deals (in this number) mostly with the hæmorrhage occurring in vesical tumours. There are three clinical types of these neoplasms (1) those in which hæmorrhage is the first and for long the only symptom, urine otherwise altered, frequent micturition, retention, fragments of growth occur more or less late in the disease; (2) those in which symptoms of obstinate cystitis prevail; and (3) those in which the symptoms of hypertrophy of the prostrate are simulated. Whatever the onset hæmorrhage eventually appears, unless in the most exceptional cases. Anatomical observation compared with the evolution of the symptoms enables it to be said that the first hæmaturia is almost contemporaneous with the commencement of the tumour. This hæmorrhage occurs without cause, independently of exercise or effort, and as often by night as day. If sometimes it appears to have been produced by violent movements, its amount and duration are altogether out of proportion to the cause. It may arise after an exploratory catheterisation. Except for the colour of the urine the patient would be unaware of the hæmaturia, that is, there is no other symptom. The colour varies from a bright to a deep red according to the amount of blood and its length of stay in the bladder. If black it may leave a deposit more or less like coffee grounds. The amount of blood is variable, but it is nearly always considerable owing to the time the hæmorrhage lasts. Sometimes it is so plentiful as to give rise to clots. These may be elongated, sometimes decolorised, but they most often consist of small soft and black masses. However small there is much pain in expelling them, and the hæmorrhage is increased. It is not very rare to have complete retention, the clots having accumulated so as to fill the bladder. Here neither urine nor blood is drawn off by the catheter, a fact giving rise to much difficulty of diagnosis. Aspiration with the help of a large-sized catheter must be had recourse to. Very rarely the clot forms a firm spheroidal mass, which behaves like a stone. Each hæmorrhage lasts long—several days and sometimes weeks. It resists treatment both general and local; it stops most often suddenly, sometimes gradually; it soon reappears, however. In exceptional cases the interval has lasted years but most often it is only months. The intervals become shorter, perhaps subintrant. Sometimes after repeated and copious hæmorrhages the patient no longer passes any blood, but other symptoms supervene. The health is eventually affected. There is waxy pallor due to loss of blood and œdema of the extremities. In rare cases only small clots are passed, and the hæmorrhage is then easily overlooked. In cases of hæmaturia, of spontaneous origin, lasting long, resisting treatment, and returning at gradually shortening intervals, one may affirm without hesitation the presence of a neoplasm in the urinary tract. A tumour at the neck of the bladder calls forth earlier troubles of micturition and pain. Fragments of growth in the urine form a valuable but too inconstant a sign. They show the presence of the neoplasm, but say nothing of its nature. The patient should be instructed to look for them.

(298) Surgical Treatment of Pulmonary Cavities.

AT the recent Congress of Tuberculosis, M. Poirier (*Sem. Méd.*, August 1st, 1891) read a paper on the surgical treatment of pulmonary cavities. He said the first case on record was accidental. In a duel fought in 1679, the sword of one of the com-

batants passed through his antagonist's lung and opened a pulmonary cavity. The surgeon utilised the wound for the direct treatment of the cavity and the patient recovered. In conjunction with M. Jonnesco, M. Poirier has collected all the available statistics, of which the following is a summary:—Of 29 cases of incision of tuberculous cavities with resection of ribs, improvement took place in 15, cure resulted in 4 (these cases must, according to M. Poirier, be taken "with every possible reserve"), in 9 the result was negative, in 1 it was unknown. In 19 of the cases the disease was situated in the apex. M. Poirier, still with the co-operation of M. Jonnesco, has endeavoured to simplify the method of operation so as to minimise the amount of traumatism. The following, according to them, is the best way of reaching the upper part of the lung. An incision is made with the thermo-cautery 4 centimetres below the sterno-costal notch from the middle line of the sternum outwards for 9 centimetres in a direction parallel to the first intercostal space; in this way the pectoralis major, which is usually much thinned, is reached, and by enlarging one of the spaces between the fasciculi, the plane of the intercostal muscles is reached. This is divided and the pleura exposed. If there are no adhesions it is better to establish them before proceeding further, but if there is a cavity adhesions are always present. It is easy to "strike" the cavity through these adhesions, though a certain thickness of pulmonary tissue has often to be traversed for the purpose. As cavities are generally situated quite in the upper part of the lung, the first intercostal space is at a distinctly lower level than the cavity; the point of the instrument must therefore be carried from below upwards and from before backwards. When the cavity lies towards the back, the spinous process of the seventh cervical vertebra should be sought for; an incision is made outwards from this point towards the scapula; the trapezius and rhomboideus are divided, and the first intercostal space, which is much less wide than it is in front, is reached. Resection of rib may be necessary, but M. Poirier does not advise this. From experiments made on twenty dead bodies, he holds that in front resection of ribs is never called for.

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(299) Trephining in General Paralysis.

At the Congress of Mental Medicine recently held at Lyons, M. Rey, of Marseilles, reported (*Sem. Méd.*, August 12th, 1891) a case of general paralysis of the insane in which there was a depression of the left parietal region of unknown origin. Trephining was performed, and was followed by notable improvement; the mental depression and exalted ideas entirely disappeared. M. Rey is inclined to think that, having regard to the meningo-cerebral lesions found during the operation, the amelioration will not be lasting.

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(300) Trephining for Traumatic Epilepsy.

Professor I. Tansini, of Modena, has recently reported (*Riforma Medica*, June 20th, 1891) two cases in which he cured epilepsy by trephining. The first was that of a boy aged 14, who, when 6 months old, had a fall on his head, after which he remained comatose for a whole day. He appeared to recover completely, and nothing of an abnormal nature was noticed till he had attained the age of 4 years, when he began to suffer from convulsive attacks. These gradually increased in frequency till they occurred regularly every ten or fifteen days. On coming under Dr. Tansini's care in January, 1890, a depression 3 centimetres in length was found in the posterior part of the right temporo-parietal region; in the depressed part a slight pulsation could sometimes be felt. Both sight and hearing were somewhat impaired on the left side; there was also diminution of tactile sensibility and muscular power in the left arm; thermic sensibility and reaction to electricity were normal. The boy was kept under observation two months, and it was observed that the attacks commenced with contractures of the left arm and left leg, rotation of the head to the left side, and finally loss of consciousness. The indications for surgical intervention being clear, trephining was performed on March 3rd, 1890. A semilunar incision with the convexity downwards was made, including the whole depressed area. In dissecting up the flap tough adhesions were found between the pericranium and the dura mater through a fissure in the skull some 3 centimetres in length by 3 millimetres in breadth, and extending along the long diameter of the depression. In breaking down these adhesions the dura mater was necessarily torn, and some further laceration took place in raising the disc of bone, which was also adherent to the subjacent membrane. The trephine hole, which had been made at the posterior part of the fissure already referred to, was enlarged with the scalpel, and a sound having been passed between the inner surface of the skull and the dura in order to make sure that no other adhesions existed, the wound was stuffed with sublimate gauze and the flap replaced. No trace of either local or systemic reaction followed the operation. The wound united by first intention, and in seven days the patient left his bed, and was soon afterwards dismissed completely cured. The disc of bone removed measured 2 centimetres in diameter and 5 millimetres in thickness; the inner table was roughened by numerous osteophytes of considerable size. Two months after the operation the patient was shown to the Medico-Chirurgical Society of Modena, and even at that time, besides the complete cessation of the epileptiform attacks, there was marked improvement in sight and tactile sensibility. The cure had been fully maintained up to the date of report (sixteen months after the operation) and the hearing, as well as the other special senses, had become keener. —The second case was that of a girl aged 11, who, though naturally delicate, had had no definite illness up to the age of 9. In March, 1888, she had a fall while running, striking her head against a stone and sustaining a wound on the right frontal region with symptoms of cerebral concussion. The wound healed in about a fortnight, and the child continued well until the following September, when she began to suffer from attacks of giddiness. Soon afterwards slight convulsive seizures occurred, which gradually became more pronounced and more frequent till they came on three or four times in the twenty-four hours at intervals of from four to seven days. The attacks began with convulsive movements in the right hand and arm and right leg; then consciousness was lost and breathing became stertorous, with foaming at the mouth and generalisation of the convulsions. After the seizure the girl remained in a dazed stupid condition, with headache chiefly in the right frontal and occipital regions. On June 2nd, 1890, she came under Dr. Tansini's care. On the right frontal eminence and towards the middle line there was a cicatrix

about 15 millimetres in length; the scar was not adherent, but a depression with some irregularity of the underlying bone could be felt; the right eye was rather more prominent than the left. Dr. Tansini hesitated about operating on account of the attacks commencing on the same side as the lesion, but Dr. G. Bruni explained this by the fact that the frontal lobe is the starting point of the bundle of fibres of the corona radiata, which, after uniting with those from the other side in the anterior segment of the internal capsule, undergo a double decussation, so as to run into the spinal cord on the same side as they started from. Accordingly, on June 4th a 2-centimetre trephine was applied. In raising the disc of bone the dura mater, which was adherent, was torn for about one centimetre and a half. The surface of the brain looked healthy, but the pia mater was greatly congested. The hæmorrhage from the torn dura was pretty free, so the wound was plugged with gauze and the flap replaced, the whole being covered with an antiseptic dressing. The gauze was removed on the second day in order that the flap might be stitched, but the bleeding was so copious that the wound had again to be stuffed, and it was not till ninety-six hours after the operation that the sutures could be inserted. In spite of this, healing took place by first intention. There was no reaction of any kind, and the child was about to get up on the sixth day when she had a violent seizure, which lasted an hour and left her stupid and drowsy all the rest of the day. She was discharged on June 15th. On the 18th she had another attack as violent as the previous one, and afterwards others, but milder and at ever-lengthening intervals. About four months after the operation they ceased altogether, and at the date of the report had not recurred for eight months. The child's health had, moreover, improved in every way. The disc of bone removed showed no abnormality beyond the marks of adhesion to the dura mater.

At a meeting of the Medical Academy of Genoa, on June 1st, Dr. Caselli reported (*Gazzetta degli Ospitali*, July 12th, 1891) a case in which he had cured epilepsy by trephining. The patient was a woman, aged 25, who nineteen years previously had sustained an injury of the right parietal region. Five years after the injury she became subject to Jacksonian epilepsy. There was adhesion of the internal surface of the bone to the underlying membranes, and of these to the surface of the brain over the motor zone, so that in addition to the bony disc two small portions of the frontal and ascending parietal convolutions had to be removed. The hæmorrhage was rather free, and a tampon steeped in a 1 per cent. solution of cocaine was employed to check it. This was left in position till the following day. The patient made an excellent recovery, and during her stay in hospital after the operation had no attacks, but only slight contractures of the left arm and left leg on two or three occasions. There was no sign of paralysis or motor disturbance of any kind beyond the contractures just mentioned, and no loss of muscular power.

MIDWIFERY AND DISEASES OF WOMEN.

(301) Early Curetting in Puerperal Infection. M. Charrier discusses (*Archives Générales de Médecine*, August, 1891) early curetting as a prophylactic and therapeutical measure in puerperal infection. It is only of recent years that the uterus after delivery has been looked upon as a wounded surface, and the difficulty of keeping this wound healthy and aseptic is shown by the not inconsiderable number of women in whom delivery, and more especially abortion, has been the starting point of a number of more or less serious accidents. The fever may be of short duration, and the infection an attenuated one, but as soon as the patient returns to her ordinary life the trouble begins. Most often the operation of early curetting is one of urgency, and there is little time for preparing the patient. M. Pozzi looks upon repeated shivering, a temperature of over 39° C. in the axilla, the general state of the patient, the pulse, etc., as affording pressing indications. The curetting is done in much the usual way with strict antiseptic precautions and with great gentleness, a blunt and non-cutting instrument being used. The uterus is washed out, and the cavity tamponed with iodoform gauze. Anæsthesia is not necessary. The amount of fœtid *débris* brought away may be extraordinary. The author says that this treatment is indicated in cases of slighter infection, when abdominal tenderness, less marked fever, and fœtid lochial discharge are present. Antiseptic injections may render the *débris* powerless from a bacteriological point of view, but such patients do not thoroughly recover. The objections raised against this treatment are that intrauterine washing out is most often sufficient; and, secondly, the supposed gravity of curetting the uterus after delivery. But if anything remains behind in the uterus these injections cannot be counted upon; and, again, if the operation is done with care, it is never followed by evil consequences. Puerperal accidents, rare nowadays, will no longer be feared if washing out the uterus and curetting be used. If this treatment of puerperal infection has not as yet passed into practice it is because it has been adopted too late in the case, or has not been carried out with the necessary precautions. If this be done, the maladies of the uterus and appendages appearing later will be diminished in numbers. M. Charrier gives details of five illustrative cases.

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(302) Absence of Liquor Amnii: Malformed Fœtus. MM. Bar and Lamotte (*Bulletins et Mémoires de la Soc. Obstét. et Gynéc. de Paris*, March, 1891) describe a breech presentation where no waters escaped either in the course of labour or at birth. The child only lived for three quarters of an hour. Its abdominal walls were extremely flaccid and pendulous, the lower part of the thorax broadened and everted, the ensiform cartilage prominent. The face was unsymmetrical; there was double talipes varus and subluxation of the left hip-joint. The amnion was very villous. Both kidneys were destroyed by small cystic degeneration. The ureters were filiform but pervious; the bladder ill-developed. The primary cause of the peculiarities observed in this fœtus was no doubt the renal disease. The flaccidity of the abdominal walls probably signified that ascites had existed, but that the fluid had been reabsorbed. Anuria, the necessary result of the renal disease and ill-formed bladder, accounted for the absence of liquor amnii, and this phenomenon, in turn, accounted for the dislocation of the left hip and the deformity of the face, as the fœtus was exposed to undue and not uniform pressure. Indeed, the right side of the face was

so firmly pressed against the right shoulder that the acromion fitted into a pit in the parotid region.

(303) Double Uterus: Pregnancy: Abortion at Third Month.

Dr. Thaddeus A. Reamy (*Amer. Journ. Obstet.*, July, 1891) reported the following case before the Obstetrical Society of Cincinnati. The patient was aged 25; she had borne three children, the youngest being 13 months old. The period ceased on November 29th, 1890. Nausea set in and caused emaciation. On January 21st, Dr. Schoolfield was called in, as she was suffering intense pain in the right inguinal region, with shock but no vaginal "show." A mass was felt to the right side of the uterus, extending to the fundus. Dr. Schoolfield had no doubt that pregnancy existed and, but for the absence of hæmorrhage and decidual membrane, would have felt sure that it was ectopic. On February 10th the patient was anæsthetised. The sound could be passed to a depth of but 3½ inches, the uterine cavity being empty. Two days later Dr. Reamy explored the parts. At first he penetrated the same cavity that had already received the sound; it measured 3½ inches. Withdrawing the sound, he turned its concavity towards the right side, and without difficulty introduced it to a depth of more than 5 inches. While it was thus introduced, he found no difficulty in carrying the uterus to the middle line by aid of the sound and of the hand placed externally. The abdominal wall being very thin, the outline of the uterus was easily distinguished. It was not difficult to detect a foreign body in the right cavity. Manipulating by the sound, with the deliberate purpose of inducing an abortion, Dr. Reamy then withdrew the instrument, and advised that the patient should be kept at rest. On the next day Dr. Schoolfield found a fœtus, of nearly three months' growth, expelled into the vagina. The placenta was removed without difficulty and the uterine cavity washed out with a bichloride solution. Taking advantage of the dilated condition of the internal os, Dr. Schoolfield explored the uterus with his finger and detected a firm antero-posterior septum extending from the fundus to a point corresponding to the ring of Bandl, thus clearing up some obscure points in the diagnosis. The patient recovered. Dr. Reamy, in conclusion, observed that, according to modern teaching the facts that pregnancy existed, that a mass lay to the right side of the uterus and that the patient had been seized with sudden pain and shock, would have justified an immediate abdominal section. The subsequent events showed that such a procedure would have been wholly unjustifiable.

(304) The Early Diagnosis of Carcinoma Uteri.

G. Winter (*Berlin. klin. Wochenschr.*, August 17th, 1891) draws attention to the great importance of diagnosing cancer of the uterus at an early stage, in view of the success that now attends the operation of total extirpation. Out of 474 such operations performed for cancer in Germany, only 40 (=8.4 per cent.) have been fatal, while since 1884, 64 supravaginal removals of the cervix have been performed in Berlin without a single death. The primary results thus attained are highly satisfactory. In regard to permanent recovery, our knowledge is not so accurate as might be desired; but there are the reasons for thinking that about 25 per cent. of women operated on remain in good health five years after the operation. In view of these facts it is lamentable that only 28 per cent.—that is, about one quarter—of the cases of uterine cancer are operated on, and if of this number only a quarter survive for five years, not more than about 7 per cent. of patients suffering from uterine cancer are permanently cured. The chief reason for this is that women do not apply for hospital treatment sufficiently early. Sometimes the medical man who is consulted in the first instance fails to examine, and consequently does not arrive at the diagnosis. In other cases the unwillingness or dread of the patient prevents her applying for relief sufficiently early for operation. In a few cases the symptoms are so slow and insidious in showing themselves that the disease has progressed too far for operation when they do so. If only medical men were fully alive to the importance of an early diagnosis, if they were more familiar with the first signs and symptoms, many patients who now apply for help when it is too late to operate would present themselves at an earlier stage, and consequently many more lives would be saved.

(305) Ichthyol in Tubo-Ovarian Disease.

At a meeting of the Turin Academy of Medicine, on June 12th, Dr. Albertoletti reported (*Riforma Medica*) the results of an extended trial of ichthyol made by him in the Maria Vittoria Hospital on a number of women suffering from salpingo-ovaritis, endo-, peri-, and parametritis, etc. He used almost exclusively the sulpho-ichthyolate of ammonium, which he gave internally in pills, or by inunction in the form of pomade, or by intrauterine injection. He sums up the results obtained as follows: Resolution in a relatively short space of time of endometritis in cases which had proved refractory to the most active treatment; absorption (not always complete however) of peri- and parametritic exudations; cessation of pain in every case without exception. The remedy, according to Dr. Albertoletti, has this marked advantage over other remedies that whilst at least equally efficacious, it is perfectly well borne in all cases, and can therefore be used when other forms of medication are inadmissible. Dr. Bergesio, in discussing the paper, confirmed Dr. Albertoletti's conclusions in every particular, and said that ichthyol seemed to be destined to solve many therapeutic problems relative to utero-ovarian disease.

DISEASES OF CHILDREN.

(306) Incubation of Measles.

Dr. H. Gillet relates (*Ann. de la Policlin. de Paris*, August, 1891) several cases in support of the view that the true period of incubation of measles is from eight to nine days, followed by a period of invasion lasting from four to five days, so that the interval between infection and the eruption is from thirteen to fourteen days. In one of the cases the exposure to infection was for a limited part of a day only, and in this case the period of incubation was eight days, and the eruption appeared in the night between the thirteenth and fourteenth days. Dr. Gillet considers that any departure from these periods is rare, and the difference never great; he admits, however, the possibility of a period of nineteen days from infection to rash, but points out that even so a period of isolation of fifteen days would be suffi-

cient to ascertain whether a child who had been exposed to infection would develop the disease, since the period of invasion is never less than four or five days, and therefore even in cases of delayed development of the disease the symptoms of invasion would be noticeable on the fifteenth day at latest.

(307) Bednar's Aphthæ in Newborn Children.

DR. P. BAUMM (*Berlin. klin. Wochenschr.*, August 24th, 1891) discusses the etiology and prophylaxis of the so-called Bednar's aphthæ—oval yellowish-white patches, which are frequently found in newborn children immediately behind the alveolar arch of the upper jaw, just where the oral mucous membrane covers the hamular process of the pterygoid. Most authors have taught that these patches arise mechanically from the friction exerted by the tongue on the mucous membrane (which over the hamular process is unusually thin) during the act of sucking. Dr. Baumm, however (confirming Epstein in this matter), concludes, from a long series of observations, that these patches are caused by the rubbing and cleansing of the infant's mouth that are so generally undertaken at birth and after each meal. He found that amongst forty consecutive cases in which the usual treatment was adopted Bednar's aphthæ showed themselves in thirty, while such aphthæ were not once found in fifty other infants whose nurses were forbidden in any way to wipe or rub the mouth. Clearly the view that sucking is the usual cause can no longer be maintained. Indeed, in two instances Baumm met with these patches a few hours after birth, before the infants had taken the breast. The lesson to be drawn from this research is that the mouth of an infant should not be cleansed as a matter of routine. The usual practice, intended as a preventative to soreness and thrush, is, on the contrary, a measure predisposing to these conditions.

(308) Intubation of the Larynx.

DR. E. PFEIFFER (*Wien. klin. Wochenschr.*, August 6th, 1891) reports eighteen cases of intubation performed for croup in the Franz Josef Hospital, Vienna, between the middle of February and the end of May, 1891. In seven cases there was simple laryngeal croup, while in eleven there was diphtheritic affection of the pharynx as well. Ten cases recovered, and eight died. One of the recoveries, however, was only obtained by means of a secondary tracheotomy. The large percentage of recoveries was in part due to the fact that bad cases, with marked lung complications, were not treated by intubation, but were tracheotomised. Thus, during the period referred to, fifty-two cases of diphtheria were admitted into the hospital. Of these, twenty-five did not need operation. Twenty-seven were operated upon, and of these eighteen were intubated, with the result already stated; and nine, presumably the worst cases, were tracheotomised, all of whom died. The intubation tube was removed, or an average, every twenty-four hours, with the view of preventing ulceration from pressure. It was often found that several hours elapsed before reintroduction was necessary, and the intervals were made use of for feeding purposes. Although some difficulty was experienced in feeding, it was never found necessary to employ the stomach tube, or to feed with the head hanging down. The thread was retained, and fastened to the cheek in several cases; in others it was removed. In the former cases the children very frequently pulled out the tube. Membrane was pushed down before the tube in one case, and the child was only saved by tracheotomy. The most frequent cause of death was lobular pneumonia. Three of the cases were under one year of age, and all of these died. The author agrees with Escherich that intubation is not suitable for cases in which there is marked bronchitis or pneumonia, or symptoms of septic poisoning. He also thinks that intubation is contra-indicated in children under one year.

PHARMACOLOGY AND THERAPEUTICS.

(309) Bromoform in Whooping-cough.

DR. S. SCHIPPERS furnishes (*Nederlandsch Tijdschrift voor Geneeskunde*, August 29th, 1891) further proof of the value of bromoform in cases of whooping-cough. Bromoform is the terbromide of formyl, having a chemical composition ($CHBr_3$) identical with that of chloroform, in which the chlorine is replaced by three atoms of bromine. It is a bright clear liquid, with a peculiar but not unpleasant ethereal odour; its specific gravity is 2.9, or more than twice that of chloroform; it is soluble in alcohol and ether, and but slightly so in water; its taste is sweet; it does not affect the mucous membrane of the mouth, and is not irritant in its action. It is rapidly decomposed by light, bromine fumes being slowly given off. When used internally no deleterious effects have been observed when administered in the following doses: In children from six months to one year old, 2 minims thrice daily; from one to two years of age, 3 minims; from two to three, 4 minims; from three to four, 5 minims; and from four to seven, 6 to 7 minims may be given in a teaspoonful of syrup; for adults the dose is 0.5 to 0.8 g. in capsules. Stepp, of Neurenberg (*Deutsche medicinische Wochenschrift*, Nos. 31 and 44, 1889), who first advocated its use, treated one hundred children effected in various degrees with pertussis, and ranging in age from six months to seven years, without a single instance of failure; a cure was usually effected in from two to four weeks; the paroxysms diminished in number and severity after from three to five days' treatment, falling in some cases from 30 or 40 per day to 10, the cough then slowly losing its paroxysmal character. In one of his cases—an infant twenty-four weeks old, whose attacks averaged 35 daily, signs of asphyxia developing at the occurrence of each of these—the child in a short time had a daily diminution to 7, and was entirely relieved in four weeks. Complications, when bromoform was used, were less pronounced and less frequent, and when they occurred ran a better course, not only in recent, but also in long-standing cases, where the subjects had become exhausted by repeated attacks of vomiting. As to the dose employed, this must be regulated by the degree of severity attained by the affection and the age of the patient; it must be perseveringly administered, or the frequency and intensity of the symptoms may return. Löwenthal (*Berlin. klin. Wochenschrift*, July, 1890), in consequence of such favourable results, made a trial of bromoform in the treatment of whooping-cough in the policlinic of Professor Senator in Berlin; he employed the drug in one hundred cases, the ages of the patients ranging from eight weeks to seven years, and obtained the most gratifying results. The vomiting, when it occurred, was the first symptom to disappear; hæmorrhage from the nose and mouth ceased in from three to five days, and the fits of

coughing soon lessened in number and severity. Neumann (*Therapeutische Monatshefte*, July, 1890) has also obtained favourable results in the treatment of twenty-five cases. Dr. Schippers, in the trial of this drug in his policlinic and in private practice, had up to April 1st of this year treated 250 cases, and he summarises the results of his observations thus: 1. Bromoform in the doses advocated is a completely harmless remedy. 2. The paroxysmal attacks diminish not only in number but also in severity, while the mucous secretion is more easily got rid of. 3. It markedly shortens the duration of the attack. 4. The post-paroxysmal vomiting disappears in from two to three days. 5. Nasal and other forms of hæmorrhage cease also in a short while. 6. It acts beneficially when complications such as pneumonia supervene, as by lessening the attacks of coughing rest is afforded to the affected organs. As to the rapidity of its action in effecting a cure, he differs from Stepp in that sometimes the time is extended to eight weeks. Two cases of bromoform poisoning have been recorded (*Therapeutische Monatshefte*, December, 1890, and January, 1891), a child having in each case taken a large quantity of the pure drug from a phial which had carelessly been left within its reach. Symptoms of extreme collapse supervened, but both cases made good recoveries under the prompt employment of restoratives. The drug should therefore always be kept in the dark and out of the reach of children. The manner in which it acts, whether as an antiseptic or as a specific, is still obscure.

(310) Hypodermic Injections of Guaiacol in Phthisis.

At the meeting of the Tuberculosis Congress recently held in Paris, M. Picot, of Bordeaux, presented a further report (*Semaine Médicale*, August 5th, 1891) on the results obtained by him in the treatment of tuberculosis by means of hypodermic injections of guaiacol and iodoform (See Supplement to the British Medical Journal, March 14th, 1891). He has tried the method in cases of pulmonary phthisis, tuberculous pleurisy, and tuberculous peritonitis. Of 42 cases of phthisis treated, 7 were in the last stage of the disease; in these, the effect of the remedy was nothing beyond diminution in the amount of expectoration and slight transient improvement such as always occurs in such cases, whatever treatment is employed. In other patients in the third stage, after from twelve to fifteen injections, not only did the expectoration become less, but the number of bacilli diminished whilst the weight increased, and important changes took place in the physical signs, together with general improvement in the patient's condition. To produce this effect, the treatment must be continued for a considerable time. In 20 patients in the second stage of phthisis, the results were variable. Where the lungs were affected in their whole extent, the remedy had no effect on the lesions, which, however, remained stationary. In other cases where the lesions were less extensive, there was distinct improvement in the physical signs after about a dozen injections. In all cases in which the disease was in the first stage, after from fifteen to twenty injections there was notable diminution of expectoration, appetite returned, and fever ceased. M. Picot, however, declines to speak of these patients as cured, inasmuch as some of them have already come back to him with the same physical signs as before. Whether these temporary improvements may finally be maintained so as to constitute a real cure is a question which he leaves to be decided by time. In three cases of phthisis in which the progress of the disease was extremely rapid, the treatment seemed to modify its course, so as to transform it into chronic tuberculosis. In 12 cases of pleurisy with effusion of tuberculous origin, the fluid disappeared after ten or twelve injections; only in one case did it reaccumulate, and a second series of injections caused it to disappear definitively. The injections gave rise to no ill effects, either local or constitutional. MM. Weil and Diamantberger said that for the last two years they had treated tuberculosis by injections of equal parts of guaiacol and sweet almond oil. No unpleasant effects were ever observed, and the results of the treatment had been as follows: Of 14 cases of phthisis in the first stage, all were materially benefited, 8 being practically cured, and the remaining 6 notably improved. Of 18 cases in the second stage, 3 became worse, 2 died, and 13 were benefited. Of 15 cases in the third stage, 7 were "manifestly" improved.

(311) Hypodermic Injections of Carbolic Acid in Tetanus.

MM. Gancel and Frache report (*Arch. de Méd. et de Pharm. Milit.*, September, 1891) a case of traumatic tetanus in which a cure was effected by means of hypodermic injections of carbolic acid. The patient was a man, aged 32, who had received a superficial wound of the left forearm from the bursting of a gun. The man, who was a bricklayer, continued to work at his trade without having had the wound dressed, and on the third day he was suddenly seized with rigidity of the limb, which was quickly followed by lockjaw, opisthotonos, and other symptoms of tetanus. On examination of the wound it presented a healthy appearance, but some fragments of lead were found in it and removed. Treatment by chloral, bromide of potassium, subcutaneous injections of hydrochlorate of quinine, etc., having proved futile, injections of carbolic acid were tried, 1 centigramme being given every two hours, and all other medication being discontinued. The effect was almost immediate, the spasms becoming much less violent and less painful, and the patient's general condition showing marked improvement. The injections were continued for seventeen days, and the patient was finally discharged completely cured, fifty days after his admission to hospital. The authors refer to the introduction of this mode of treating tetanus by Baccelli, who reported a case in which he had employed it successfully to the first Italian Congress of Medicine in 1888. They do not, however, agree with him in attributing the efficacy of the treatment to the sedative action of the carbolic acid on the spinal centres, but regard it as due to the parasiticide power of the remedy.

BACTERIOLOGY.

(312) Detection of the Bacillus of Typhoid Fever.

The detection of the bacillus of typhoid fever has always been a matter of some difficulty, owing to the circumstance that various other bacilli resemble it both morphologically and biologically. Professor Uffelmann (*Berlin. klin. Wochenschr.*, August 31st, 1891) recommends as the best nutrient medium for its culture an acid gelatine coloured blue with methyl violet. The advantage gained is that few kinds of bacilli ex-

cept that of typhoid can grow on such soil, and it is consequently easier to pick it out from amongst them. The usual meat infusion (containing peptone and gelatine) is acidified with citric acid, until 10 cubic centimetres of the nutrient jelly are equivalent to 14 cubic centimetres of a solution of carbonate of soda 53 per cent. The solution is now filtered, and mixed with methyl violet (in the proportion of 2.5 milligrammes to 100 cubic centimetres), which has been dissolved in 1 cubic centimetre of distilled water with 1 drop of alcohol. The mixture is then poured into sterilised glasses, and heated in a steam bath for fifteen minutes. On such a medium the bacillus of typhoid grows readily. After twenty-four hours (at a temperature of 20° to 21° C.), roundish or oval colonies show themselves, possessing a bluish tint, which gradually becomes of an even deeper blue than the surrounding gelatine medium. From these colonies others can be sown in the usual way on acid potatoes and on any other desired media, so as to determine whether the bacillus presents the ordinary morphological and biological characters of the typhoid organism.

(313) The Bacillus of Influenza.

At a recent meeting of the Société des Sciences Médicales of Lyons, Dr. G. Roux presented a communication (*Lyon Médical*, August 9th, 1891) embodying the results of a research made in conjunction with MM. Pithion and Teissier, on the bacillus of influenza. In the blood of patients suffering from that disease a streptococcus was found when the fever was at its highest point; in the urine, on the other hand, diplobacilli were found. The authors conclude that influenza is probably caused by one polymorphous microorganism which exhibits differences in form in the varying phases of the disease. This may account for the great discrepancies of observation which have been reported. M. Roux showed drawings illustrating the successive transformations of the micro-organism.

PHYSIOLOGY.

(314) The Distribution of Sugar in the Juices of the Body after its Injection into the Blood.

The researches of Ludwig and his pupils, especially Brasol, have shown that when grape sugar is injected into the blood, it rapidly disappears from the blood stream. F. Weyert (*Vertheilung des dem Blute zugeführten Zuckers auf einige Körpersäfte*, Dissertation, Dorpat, 1890, and *Centralb. f. d. med. Wissench.*, No. 30, 1891) has, under C. Ludwig's direction, investigated how the sugar which disappears from the blood stream is distributed in the juices of the body. Sugary solutions were repeatedly injected into the blood, and in some cases, to prevent the escape of the sugar by the kidneys, the ureters were tied. In normal arterial blood of the dog there was only 0.07 per cent. of sugar, but the amount increased after the injection of sugar. The amount of sugar in the lymph before the injection was greater than that in the blood, and after the injection its percentage rose more rapidly than that in the blood, but after a time nearly the same amount was found in the blood and lymph. The quantity of sugar both in the blood and lymph rose more rapidly after ligature of the ureters than when these were not tied. When the percentage of sugar in the blood reached a certain amount sugar appeared in the saliva. After the injection the copiously secreted urine always contained much sugar, while the cerebrospinal fluid contained but little, the vitreous and aqueous humours merely traces of sugar. As the percentage of sugar is very unequal in the several juices of the body, the author concludes that living capillary walls which separate the blood from the lymph must possess very special properties in relation to the exchange of substances between these two fluids.

(315) Destruction of Sugar in the Blood.

Lépine and Barral (*Comptes Rendus*, cxii, Nos. 5 and 8, 1891) collected some arterial blood from a dog in a vessel cooled to 0° C., then defibrinated it, and at once estimated the amount of sugar it contained. Other samples of the same blood were kept at different temperatures; *b* at 39°, *c* at 46°, *d* at 52°, and *e* at 55° C., and left for one hour. After this time the amount of sugar in *b* was found to be $\frac{1}{4}$, in *c* and *d* $\frac{7}{10}$ to $\frac{2}{3}$ less than in *a*, while in *e* it was the same as in *a*. This shows that the "sugar-destroying ferment" acts better the higher the temperature, until at about 54° C. its activity is destroyed. If blood withdrawn from an artery be centrifugalised, one obtains a serum which of course contains more sugar than the original blood, because the corpuscles contain scarcely any sugar. If such serum be kept at 39° C. for some time—for example, one hour—there is no diminution in the amount of the sugar, while blood similarly treated loses $\frac{1}{4}$ of its sugar. If the corpuscles which are separated by the centrifugalising process be washed with saline solution, a filtrate is obtained which, if mixed with grape sugar, causes a part of the latter to disappear when the mixture is kept at 39° C. It would seem, therefore, that the "sugar-destroying ferment" is present in the blood corpuscles.

(316) On the Development of the Pigment Cells of the Choroid.

A. Ricke (*v. Gräfe's Archiv*, xxxvii, p. 62) has investigated the form of the choroidal cells in various mammals, and he finds that all the pigment is formed within the cells, and that the forms of the cell itself are extremely diverse, varying from a rounded out line to a much branched form, while the arrangement of the cells follows that of the blood vessels. As regards the development of the pigment in these cells, many newborn mammals have well pigmented choroidal cells. In the human fœtus, the earliest pigmentation of the choroid begins at the seventh month, but there are great variations in the time at which pigmentation begins, in many cases it occurs later than this. Leucocytes laden with pigment are not found in the choroid, so that it would seem that the fixed connective tissue corpuscles form the pigment or granules of melanin within, and by virtue of their own vital endowments. It is not even proved that under normal circumstances this pigment is of hæmatogenous origin. Moreover the pigment is known to be free from iron, and this affords further evidence in support of the view that the pigment is formed *in situ* by virtue of the metabolic activity of the cells themselves.

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